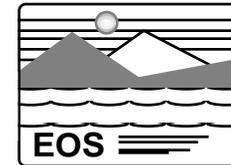


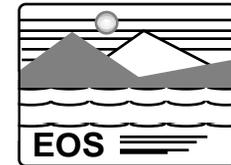
EOSDIS



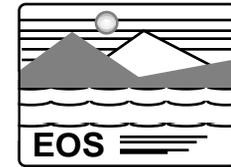
EOSDIS Status

Presentation to the MODIS Science Team

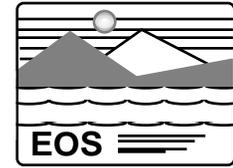
October 10, 1996



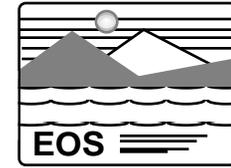
- **Replanning details provided here are work in progress - NOT final decisions**
- **Replanning process includes detailed review and feedback from Instrument Teams and DAACs**



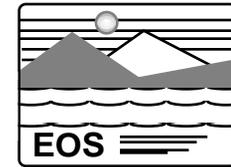
- **ECS Science Data Processing Segment is currently projected to slip:**
 - From December '96 to May '97 for Release A (TRMM)
 - Impact on AM-1/Landsat-7 Release B being analyzed. Project Replan to be completed by Mid-December.
 - Process being established to involve Instrument Teams in replanning process. DAACs have been involved in initial replanning.
 - Priority is being placed on mission critical and essential functions to avoid impact to launch schedules.
- **Flight Operations Segment and EDOS are on schedule to support AM-1**
- **Replanning assumes no launch slips**



- **Underestimation of code size at CDR - primarily in the Data Server**
- **COTS software product incompatibilities across vendor platforms**
- **Difficulty in recruiting and retaining expertise in key technologies: C++ and Distributed Computing Environment (DCE)**
- **Planned recovery through parallel development not feasible due to serial dependencies**



- **ECS failed Test Readiness Review (TRR) on August 5-6**
 - Test plans not completely mapped to requirements
 - Late internal deliveries of code were significantly impacting the I&T phase
 - Current detailed I&T schedules and dependencies were not available
- **6 week slip of Release A Data Server code**
- **Based on above, Project directed Hughes to develop achievable recovery plan**
 - Resulted in projected 5 month slip in full Release A readiness

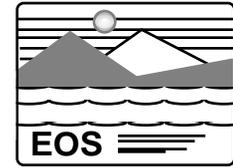


- **Initial delivery (Release A) will support TRMM and early AM-1/Landsat-7 testing**
 - Mission critical/essential functions to be integrated first
- **Upgrades to support AM-1 (Release B), e.g.,**
 - Data types and expanded capacity, and spatial data management functions

will be performed on parallel hardware strings to avoid impact to TRMM operations

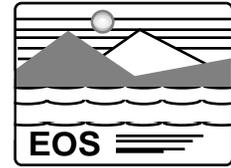
 - Some hardware designated for NSIDC and JPL DAACs could be delayed - could initially be deployed at GSFC and LaRC to provide parallel hardware
- **Working with EDC and JPL to define minimum essential capability required at those sites to support ASTER and SeaWinds testing**
 - Remote operation of GSFC and/or LaRC capabilities should be used where possible to minimize cost impact

ECS Replan Potential Impacts to MODIS

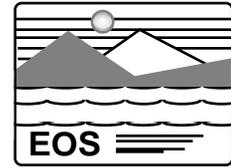


- **Delayed availability of Release A capabilities until May '97**
- **Potential deployment delays at some DAACs:**
 - **EDC is not in-line to TRMM. Deployment of Release A could be delayed if schedule/resource limits are reached**
 - **Possible delay of deployment of Release B at NSIDC**
 - **Possible mitigation: Perform SSI&T remotely on GSFC DAAC system**
- **Delayed availability of Release B capabilities - schedule being worked**

Release A Capabilities

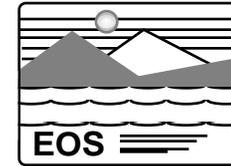


- **Mission Critical**
 - Infrastructure (e.g. DCE, ftp, security)
 - Data ingest and archive
 - Reprocessing support for TSDIS
 - Science Software Integration and Test
 - Electronic data distribution
- **Mission Essential:**
 - Process and archive CERES data
 - User registration
 - Search and browse
 - DAAC resource planning
 - DAAC management report generation
 - Data Product QA



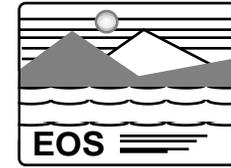
- **Mission Success:**
 - **Data file visualization**
 - **Links to external services**
 - **Automated checking of user entries**
 - **Automated system management support**
 - **Document data server**
 - **Data distribution on physical media**

Release A Deliveries

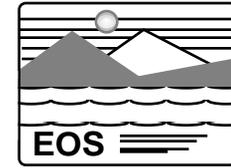


- **A (Mid-May 1997 from Hughes to EOSDIS)**
 - **Mission Critical, Mission Essential and part of Mission Success capabilities**
- **A.I (Mid-May 1997 from Hughes to EOSDIS)**
 - Updated TRMM ESDTs
 - Subset of ESDTs needed for AM-1 SSI&T
- **A.II (TBD)**
 - Port Rel. A custom S/W to Rel. B H/W and COTS
- **A.III (not needed)**
 - Formerly defined to provide Mode Management is not needed due to planned use of parallel strings for testing

Release A Replan Schedule



Description	Start	Finish	1996					1997									
			AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL			
1 ECS TESTS																	
2 Thread Tests @ GSFC	08/23/96	12/13/96															
3																	
4 System Tests @ GSFC	10/15/96	01/20/97															
5																	
6 Release A CSR	02/15/97	02/15/97															
7																	
8 Dry Run Acceptance Tests	01/15/97	02/15/97															
9																	
10 Acceptance Tests @ GSFC	02/15/97	05/09/97															
11																	
12 Acceptance Tests @ LaRC	02/22/97	05/11/97															
13																	
14 Acceptance Tests @ EDC	02/28/97	05/11/97															
15																	
16 Release A RRR	05/15/97	05/15/97															
17																	
18 EXTERNAL INTERFACE TESTS																	
19 TRMM Mission Simulation #1	10/10/96	10/12/96															
20																	
21 Ingest, TSDIS Msg Exchange	09/03/96	10/30/96															
22																	
23 TRMM/TSDIS Engineering Tests	12/15/96	02/15/97															
24																	
25 TRMM Mission Simulation #2	03/08/97	03/10/97															
26																	
27																	



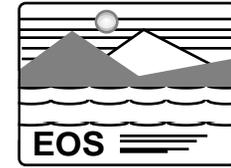
- Release B will be delivered incrementally as B.0 and B.1

Assumptions:

- NO CHANGES IN LAUNCH DATES
- Release A capabilities must be continued to be supported in B.0
- AM-1 launch critical items must be in B.0 - for example,
 - Ingest and retrieval of Level 0 data
 - Processing Level 1 B and selective Level 2 in order to assess instrument operation

Potential Constraints (due to software development schedules):

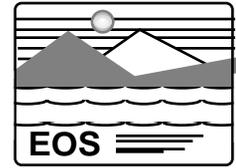
- Scheduler in B.0 will be limited to ~4,000 PGE initiations per day
 - “Full production” requires about 13,000 PGE initiations per day (February 1996 baseline)
 - Recent discussions with MODIS team ==> 3800 PGEs per day for full production
 - If requirement is > 4,000 PGEs/day, MODIS may be limited to a subset of Level 2's in B.0 [can generate a subset of all L2 products or all of a subset of L2s]
- Inter-DAAC dependencies will not be supported in B.0
 - Level 2G and Level 3 product generation cannot be supported on a production basis in B.0; can support sample datasets



B.0

- Infrastructure development (e.g., Fault/Error Detection, Event Logging, Internal Interfaces)
- External interfaces (e.g., EDOS, TSDIS, Landsat-7, ASTER)
- Continuation of Release A capabilities to support TRMM (ingest, processing, archive, basic subscription services, basic DAAC management reports)
- AM-1 Science Software Integration and Test
- Archive and retrieval of AM-1 Level 0 and Landsat-7 Level 0R products
- Product generation up to 4,000 PGEs per day and with no inter-DAAC dependencies
- ASTER Catalog Interoperability and ASTER DAR capabilities
- Basic Search, Browse, Order, and Advertising Services

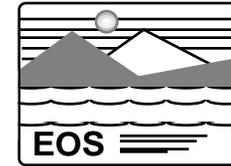
* Under review

**B.1**

- **Billing and Accounting**
- **Request Tracking**
- **Enhanced Client including Coincident Search**
- **Subsetting Capabilities**
- **Production generation with expanded scheduling capacity**
- **Inter-DAAC Planning & Processing**
- **On-Demand Processing**

* Under review

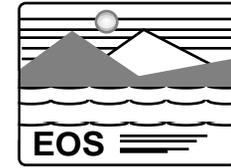
Replan Schedule - Preliminary



Events are shown here and on the next two charts for Project, Instrument Teams, DAACs and Flight Project involvement in ECS Replanning:

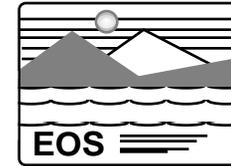
Project:

- **Key Inputs from Hughes to Project** **10/14/96**
 - Detailed Release A and B functionality by phase
 - Description of SSI&T plans
- **Key Inputs from Project to Hughes** **11/6/96**
 - Mission constraints
 - EGS and Mission Test constraints
 - SSI&T constraints
 - DAAC constraints
- **Preliminary plan from Hughes** **11/15/96**
- **Project feedback on preliminary plan** **12/ 2/96**
- **Final Project-endorsed Plan** **12/16/96**

**Instrument Teams (SSI&T)**

- **Detailed Release A and Release B
Functionality by Phase distributed to ITs** **10/16**
- **Hold discussions with ITs to ensure
that functionality by phase and phasing
schedule is consistent with IT needs** **10/31**
- **Provide recommendations for fine
tuning Detailed Release A and Release B
Functionality by Phase** **11/4**
- **Present preliminary plan to ITs** **11/20**
- **Receive final recommendations from ITs** **11/27**

Replan Schedule - Preliminary (Cont)

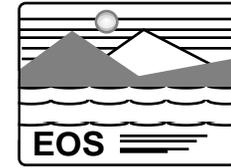


DAACs

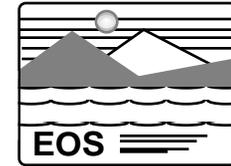
- Detailed Release A and Release B
Functionality by Phase distributed
to DAACs 10/16
- Meet with DAACs to discuss by-phase plans 10/31
- Provide DAAC recommendations for
changes to by-phase plans 11/4
- Present preliminary plan to DAACs 11/20
- Receive final recommendations from DAACs 11/27

Flight Projects

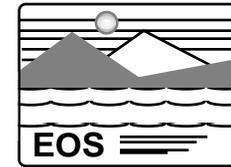
- Detailed Release A and Release B
Functionality by Phase distributed
to Flight Projects 10/16
- One-on-one meetings with Flight Projects 10/31



- **Production Rule Syntax**
 - Production rules not used in Rel. A - data driven. Nominal temporal boundaries represented in ODL files available on Web site.
 - Examples of production rules for Rel. B to be provided by end of October. Will be available on Instrument Team Information Page.
- **ESDT Definition**
 - ESDTs for SSI&T of Version 1 Science Software for AM-1 - May 15, 1997
 - Individual schedules being developed with each Instrument Team; Instrument Teams' advice will be sought in allocating ESDTs to B.0 and B.1



- **Support for Integerized Sinusoidal Grid in HDF-EOS**
 - New requirement. Need to factor into available cost/schedule envelope.
- **Geographic Search Support in Data Server**
 - Will be available in B.0 for single DAAC production
 - Level 2G and Level 3 product generation on production basis will be supported in B.1 - could exercise on sample data in B.0



Purpose

- **Assess and decide upon approval of changes to resource requirements, and ensure equitable allocation of resources for standard product generation, archival and distribution**

Membership

- **ESDIS Project Scientist -Skip Reber, Chairman**
- **EOS Program Scientist - Ghassem Asrar**
- **AM Project Scientist - Yoram Kaufman**
- **AHWGP Co-Chairmen - Bruce Barkstrom, H.K. Ramapriyan**

Status

- **Product resource requirements under configuration control - February 1996 Baseline approved**
- **Letters from Skip Reber sent to Instrument Teams**
- **Requests for change require approval by the Board**
 - **Scientific justification from requesting Instrument Team**
 - **Impact analysis by ESDIS Project**
 - **Possible decisions - accept, negotiate down or reject - apply contingency funds if needed**